Amendm nts to the Claims

As a result of the applicant's election of the claims of Group I, the status of the claims is as follows:

1   1. (Original)   A method for measuring the position of an actuator, which has a
2   coil that moves relative to a core of a magnet, comprising the following steps:
3   generating an alternating-current (AC) signal through the coil;
4   sensing current flow through the coil as a coil current signal;
5   generating a control signal as a function of the coil current signal and having a
6   frequency corresponding to a position of the coil relative to the core;
7   generating the AC signal with the same frequency as the control signal; and
8   as a function of the frequency of the control signal, generating an output position
9   signal indicating the position of the coil.

1   2. (Original)   A method as in claim 1, further including the following steps:
2   generating a regulator output signal as a function of the difference between an
3   input position set-point signal and the output position signal; and
4   generating the control signal as a function of the difference between the regulator
5   output signal and the coil current signal.

1   3. (Original)   A method as in claim 2, in which the step of generating the control
2   signal comprises applying hysteresis to the regulator output signal before forming the
3   difference between the regulator output signal and the coil current signal.

1   4. (Original)   A method as in claim 1, further comprising the following steps:
2   measuring a temperature-induced change of resistivity of the coil;
3   calculating a temperature compensation factor; and
4   adjusting the control signal by the compensation factor.

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1   5. (Original)   A method as in claim 4, in which the step of measuring the

2 temperature-induced change comprises measuring the temperature of the coil.

1   6. (Original)   A method as in claim 4, in which the following steps:

2   measuring the temperature-induced change comprises measuring an average

3 value of voltage over the coil and an average value of current through the coil; and

4   calculating the compensation factor as a predetermined function of the ratio

5 between the average value of voltage and the average value of current.

    7.   (Canceled)

    8.   (Canceled)

    9.   (Canceled)

    10.   (Canceled)

1   11. (Original)   An arrangement for measuring the position of a voice-coil

2 actuator, comprising:

3   a permanent magnet core;

4   a coil arranged to move relative to the core;

5   an oscillation circuit having, as a first input, an alternating-current (AC) signal

6 corresponding to an instantaneous current flowing through the coil and having, as an

7 output, a measurement output signal that has a frequency corresponding to the position

8 of the coil relative to the core; and

9   a converter converting the frequency of the measurement output signal into a

10 position output signal indicating the corresponding to the position of the coil relative to

11 the core.

1   12. (Original)   An arrangement as in claim 11, further comprising:

2   means for measuring a temperature-induced change of resistivity of the coil;

3   means for calculating a temperature compensation factor; and

4   means for adjusting the control signal by the compensation factor.

1   13. (Currently amended)   An arrangement as in claim 12, in which:

2   the means for measuring a temperature-induced change comprises means for

3   determining an average value of voltage over the coil and an average value of current

4   through the coil; and

5   the means for calculating a temperature compensation factor comprises means

6   for calculating the compensation factor as a predetermined function of the ratio between

7   the average value of voltage and the average value of current.

1   14. (Original)   An arrangement as in claim 11, further comprising:

2   a regulator having, as a first input, a position set-point signal corresponding to a

3   desired position of the coil; as a second input, the position output signal; and, as an

4   output, a position difference signal;

5   a comparator having as a first input, the alternating-current (AC) signal; and, as

6   an output, the measurement output signal;

7   a hysteresis arrangement connected between the output of the regulator and a

8   second input of the comparator; and

9   a switching arrangement applying current of alternating polarity to the coil at a

10   frequency equal to the frequency of the measurement output signal.

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